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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,283	09/12/2003	Scott C. Blanchet	B429-073	7622

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COWAN LIEBOWITZ & LATMAN, P.C
JOHN J TORRENTE
1133 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

HODGE, ROBERT W

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/661,283	Applicant(s) BLANCHET ET AL.	
	Examiner Robert Hodge	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 33-38 and 57-60 is/are rejected.
- 7) ☒ Claim(s) 5-32 and 39-56 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/05/03</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
2. It is unclear in claim 2 how the recitation of "wherein said first component is at a first electrical potential and wherein said second component is at a second electrical potential" further limits the structure set forth in claim 1 since all of the structural features are the same. Therefore because of the dependency of claim 3 on claim 2, the same deficiency exists.
3. Claim 24 is objected to because of the following informalities: The phrase "...has one or more a second through openings..." is grammatically incorrect.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claim 33 recites the limitation "said fastening assembly" in claim 14. There is insufficient antecedent basis for this limitation in the claim.
5. There is no recitation of any fastening assembly in claim 14 or any preceding claims of which claim 14 depends.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4 and 34-36 are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention. The claimed invention from the above listed claims as recited by the claims has been commercially available for at least 25 years by Cole Parmer. The examiner initiated a conversation with George McFarland in the customer service department of Cole Parmer on 12-29-04, he informed the examiner that not only have the Sanitary Ferrules with seals and clamps been commercially available for 25 years, but they have become an industry standard. Therefore the above claimed invention as so recited is unpatentable.

8. As shown in the figure of the butt weld sanitary ferrule provide by Cole Parmer, there are two pieces, a pipe that is welded to a sanitary ferrule; there is also an opening (not shown) that extends from the pipe through the sanitary ferrule. By using two of these butt weld sanitary ferrule assemblies in conjunction with a Teflon gasket situated between the sanitary ferrule ends of the two assemblies that are placed together and held together by a Nylon clamp (otherwise known as a V-band clamp), the applicants invention is disclosed as so recited in the above mentioned claims and electric isolation between the two butt weld sanitary ferrule assemblies is accomplished.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 37-38 and 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Energy Partners (now known as Teledyne Energy Systems) in view of Cole Parmer.

11. In an article released by Energy Partners on June 11, 1999 a 20 kW fuel cell stack is disclosed called the NG2000. Further research reveals a picture of the NG2000 that has connectors mounted to it that use an industry standard butt weld sanitary ferrule connectors that are commercially available. As can be seen in the picture it is clearly a fuel cell stack assembly having more than one sanitary ferrule connector.

12. Energy partners does not disclose the use of a second set of standard butt weld sanitary ferrule connectors, the use of a dielectric gasket used between the two connectors, or the use of a clamp that is constructed from a dielectric material.

13. Cole Parmer sells the commercially available connection assemblies that have become an industry standard as disclosed in the above 102 rejection.

14. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use an industry standard sanitary ferrule connector in conjunction with a fuel cell stack assembly as the connectors for any of the fluid feeds or exhaust. The motivation for doing so would have been to use a connector that is commercially

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available thus saving on cost as well as using a connector that can easily be reused numerous amounts of times for easily connecting and disconnecting the fuel cell stack from the fluids being supplied. And due to the nature of the commercially available connectors and the materials of construction the fuel cell stack would also be electrically isolated from its surrounding environment, thus eliminating any risk of an electrical hazard.

15. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Energy Partners in view of Cole Parmer as applied to claims 37-38 and 58-60 above, and further in view of Guthrie et al. U.S. Patent No. 4,786,086 hereinafter referred to as Guthrie et al.

16. Energy Partners and Cole Parmer disclose everything in the above 103 and 102 rejections respectively.

17. Energy Partners and Cole Parmer do not disclose that the fuel cell stack assembly be enclosed in a vessel with a pipe extending through said vessel.

18. Guthrie et al. teaches that a fuel cell stack operated at high pressures must be contained in a pressure vessel (column 1, lines 20-22) and that pipes will penetrate the stack pressure vessel (column 3, lines 25-26).

19. At the time of the invention it would have been obvious to a person of ordinary skill in the art to enclose a high-pressure fuel cell stack within a pressure vessel. The motivation for doing so would have been first to maintain the fuel cell stack at the desired pressure for operation without the loss of gases from leaks between the cells due to the pressure differential between the stack and the atmosphere. As well as to

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contain the fuel cell stack for safety purposes if a component were to explode due to the high operating pressure.

Allowable Subject Matter

20. Claims 5-33 and 39-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. The Prior Art made of record does not disclose a connection assembly nor a fuel cell stack having the same connection assembly, wherein the opening of the dielectric is smaller than the opening of said first and second members which in turn overlaps the region of the through opening of the first and second members. Or that the dielectric material extend outwards from the outer extent of the first and second members.

22. The Prior Art made of record does not disclose a raised sealing face that is outward of the through opening of the first and second member. And that the dielectric member abuts a part of the raised sealing face of the first and second member. Nor does it disclose that the first and second members or any parts thereon or therein be coated with a dielectric material including the through openings and that said coating be polished.

23. The Prior Art made of record does not disclose that the first and second members include a weld-neck on the second surface the member outward of the through opening.

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23. The Prior Art made of record does not disclose that the first and second members be cylindrical in shape or a flange (more specifically an ASME slip-on flange), that the dielectric member be disk shaped, that the through openings be centrally disposed with a circular cross-section and that the through opening of the dielectric member also be centrally disposed with a circular cross-section that is aligned with the through openings of the first and second members.

24. The Prior Art made of record does not disclose that the dielectric material comprise of a mica material or that the dielectric coating comprise of a multi-layered ceramic coating being of a first layer comprising NiCrAlY, a second layer comprising NiCrAlY and Al_2O_3 and a third layer comprising Al_2O_3 .

25. The Prior Art made of record does not disclose a plurality of through openings in the first and second members nor the dielectric material. Wherein a plurality of fastening units is used to couple the first and second members together with the dielectric material sandwiched in between. Or that a dielectric tube be used in the through openings with a bolt in conjunction with dielectric and metallic washers.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 1,320,731 to Bown, teaches the union of two pipes that are insulated from one another

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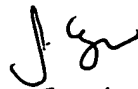
- b. U.S. Patent No. 3,686,747 to Bagnulo, teaches electrically insulating two pipes from one another using a sealing ring as well as applying a layer of electrically insulating paint

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RWH 12-30-04


Jonathan Crepeau
Primary Examiner
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